

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

1. (Original) A method for identifying a polypeptide of a microorganism which polypeptide is associated with an immune response in an animal which has been subjected to the microorganism, the method comprising the steps of

(1) providing a plurality of different mutants of the microorganism;

(2) contacting the plurality of mutant microorganisms with antibodies from an animal which has raised an immune response to the microorganism or a part thereof, under conditions whereby if the antibodies bind to the mutant microorganism the mutant microorganism is killed;

(3) selecting surviving mutant microorganisms from step (2);

(4) identifying the gene containing the mutation in any surviving mutant microorganism ; and

(5) identifying the polypeptide encoded by the gene.

2. (Original) A method according to Claim 1 wherein the microorganism is a pathogenic microorganism.

3. (Currently amended) A method according to Claim 1 ~~or 2~~ wherein the animal subjected to the microorganism is a host of the microorganism.

4. (Currently amended) A method according to ~~any of Claims 1 to~~ Claim 3 wherein the animal subjected to the microorganism is a human who is or has been infected with the microorganism.

5. (Currently amended) A method according to ~~any of the preceding claims~~ Claim 1 wherein the microorganism is a bacterium.

6. (Original) A method according to Claim 5 wherein the bacterium is Neisseria meningitidis.

7. (Currently amended) A method according to ~~any of the preceding claims~~ Claim 1 wherein the mutant microorganisms have insertional mutations.

8. (Currently amended) A method according to ~~any of the preceding claims~~ Claim 1 wherein any surviving mutant selected in step (3) is backcrossed into a parental strain of the microorganism and it is determined whether the resulting cross is resistant to killing under conditions as set out in step (2).

9. (Currently amended) A method according ~~any one of the preceding claims~~ to Claim 1 wherein in step (2) complement

mediates killing of the microorganisms to which the antibodies are bound.

10. (Original) A method of identifying a gene encoding a polypeptide of a microorganism which polypeptide is associated with an immune response in an animal which has been subjected to the microorganism, the method comprising carrying out steps (1) to (4) as defined in Claim 1.

11. (Original) A method of selecting a microorganism mutated in a gene encoding a polypeptide which polypeptide is associated with an immune response in an animal which has been subjected to the microorganism, the method comprising carrying out steps (1) to (3) as defined in Claim 1.

12. (Currently amended) A method for making an antigen the method comprising carrying out the method according to ~~any of Claims 1 to 9~~ Claim 1 and synthesising the polypeptide identified in step (5) or an antigenic fragment or variant thereof, or fusion of such polypeptide or fragment or variant.

13. (Original) A method according to Claim 12 wherein the variant is a homologous polypeptide from a related microorganism.

14. (Currently amended) A method for making a vaccine for combating a microorganism the method comprising making an antigen according to the method of Claim 12 ~~or 13~~ or

polynucleotide encoding said antigen and combining the antigen or polynucleotide, with a suitable carrier.

15. (Original) A method according to Claim 14 wherein the antigen or polynucleotide is combined with an adjuvant.

16. (Currently amended) An antigen obtainable according to the method of Claim 12 ~~or 13~~ or a polynucleotide encoding said antigen.

17. (Currently amended) A vaccine obtainable by the method of ~~Claims~~ Claim 14 ~~or 15~~.

18. (Original) An antigen or polynucleotide according to Claim 16 for use in a vaccine.

19. (Currently amended) A method of vaccinating an individual against a microorganism, the method comprising administering an antigen or polynucleotide according to Claim 16, ~~or a vaccine according to Claim 17,~~ to the individual.

20. (Cancelled).

21. (Original) A method for making a polynucleotide the method comprising carrying out the steps of Claim 10 and isolating or synthesising the identified gene or a variant or fragment thereof or a fusion of such gene or variant or fragment.

22. (Currently amended) A polynucleotide obtainable by the method of Claim ~~20~~ 21.

23. (Original). A mutant microorganism obtainable by the method of Claim 11.

24. (Cancelled).

25. (Original) A polypeptide comprising the amino acid sequence selected from any one of SEQ ID Nos 4, 2, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56; or a or variant thereof or a fusion of such a fragment or variant.

26. (Original) A polynucleotide encoding a polypeptide according to Claim 25.

27. (Currently amended) A polypeptide according to Claim 25 or a polynucleotide encoding the polypeptide, each of which ~~is according to Claim 26~~ for use in medicine.

28. (Currently amended) A polypeptide according to Claim 25 or a polynucleotide encoding the polypeptide, each of which ~~is according to Claim 26~~ for use in a vaccine.

29. (Currently amended) A method for making a polypeptide according to Claim 25, the method comprising expressing ~~the~~ a polynucleotide encoding the polypeptide ~~of Claim 26~~ in a host cell and isolating said polypeptide.

30. (Original) A method for making a polypeptide according to Claim 26 comprising chemically synthesising said polypeptide.

31. (Currently amended) A method of vaccinating an individual against *Neisseria meningitidis*, the method comprising administering to the individual a polypeptide according to Claim 25 or a polynucleotide encoding the polypeptide ~~according to Claim 26~~.

32. (Cancelled).

33. (Cancelled).